

Summer School in Remote Sensing for Wind Energy, Boulder, Colorado, June 11-15, 2012

The Wind Energy Department at the Technical University of Denmark (Risø Campus) and the Department of Atmospheric and Oceanic Sciences at the University of Colorado Boulder, USA, are conducting a five-day "Remote Sensing for Wind Energy" summer school. For the last few years this summer school has been organized at DTU (formerly Risø DTU). In 2012 the summer school coincides nicely with the ISARS conference at Boulder, Colorado. Lectures, hands-on exercises and demonstrations of the instruments will be given by international experts in the field of remote sensing with applications to wind energy.

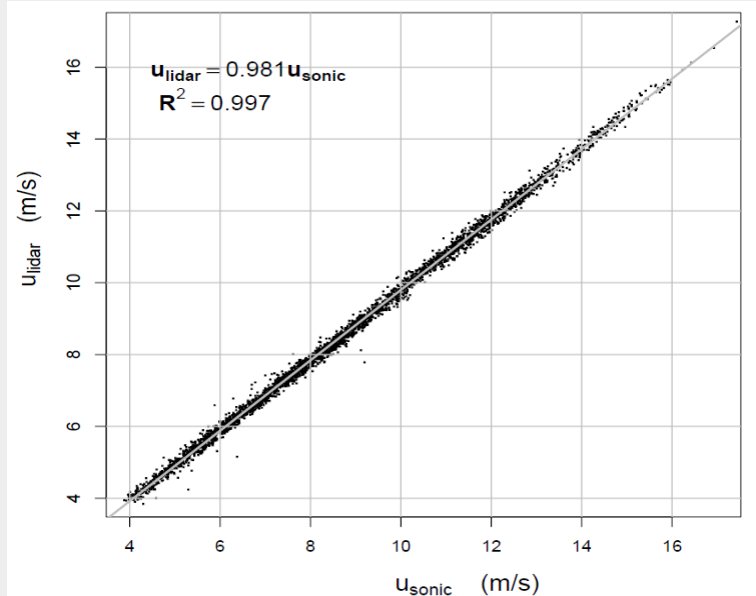
Why remote sensing for wind energy?

Atmospheric flow measurements are an integral part of the wind energy community. Traditional measurements involve use of sensors mounted on meteorological masts (met-masts). Some of the disadvantages of using met-masts are large flow distortions, expense when taller masts are required and particularly under offshore conditions, separate instrumentations necessary to measure at different heights, and immobility. Modern wind turbines can reach up to heights of over 200 m and this creates significant difficulties in using a met-mast.

Remote sensing instruments do not have these particular disadvantages (but several others), and can measure the flow up to the heights of modern wind turbines. Significant cost-savings can be achieved by using remote sensing instruments instead of met-masts. Lidars mounted on wind turbines may result in load reduction and in turn make wind turbines more efficient.

What are the learning goals?

After successful completion of this five day workshop the participants will gain a firm understanding of the following:



Comparison of lidar measured mean wind speed with the corresponding measurement by a sonic anemometer at 100 m. It clearly demonstrates the ability of lidars to measure the mean wind speed.

Fundamental principles of lidar (continuous-wave and pulsed) and sodar measurements; Wind profile measurements using lidars; Turbulence measurements using lidars; Lidar measurement in complex terrain; Lidars for wind turbine control; Wind turbine wakes measured by lidars; Power curves measured by sodars; Synthetic Aperture Radar (SAR) measurements; basic aspects of boundary-layer meteorology.

Costs:

Ph.D. students – \$300

Others – \$3000

Register Online

rasei.colorado.edu/windsummerschool2012

Deadline for registration is May 1, 2012. Space is limited—register early. Lunches, coffee, tea, cakes, ice-breaker and a conference dinner included.

Venue:

C4C, Flatirons Room
University of Colorado Boulder

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Boulder, Colorado, USA 80009

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Hotel Accommodations

Boulder Outlook Hotel
800 28th Street, Boulder, CO 80303

Participants **must call** 800-542-0304, then press "zero" for reservations to request hotel discount for the Sensing Group (\$98-\$119/night). Reserving rooms online **will not** include discount. <http://www.boulderoutlook.com/>

Organizers:

Prof. Jakob Mann, DTU Wind Energy
Prof. Julie Lundquist, CU-Boulder